Volume 22 Contents

January

Editorial 1
The Origins of Glycobiology. J A Cabezas 3
The Integrated Biochemistry Learning Series. J Baggott and S E Dennis 8
Variety in Biology and Biochemistry Teaching. D Reavey and J Garratt 10
Using 'Miniposters' to Reinforce the Teaching of Structure and Function of Biological Molecules. C A Smith, M M Dawson, M B Head and M J Jones 16
An End-of-session Quiz for Biochemistry Students. E A Carrey 18
Biochemical Education in Leisure. S Tayyab 21
Stereoscopy of Computer-Drawn Molecular Structures. J C Stockert 23
Easy Differentiation Between Enantiomeric Isomers of Chiral Molecules Without Asymmetric Carbons: A Simplified System. J M Macarulla, M Trueba and A Macarulla 25
The Biophysics, Molecular Biology and Genetics Department of Calcutta University. Some Experience and Experiments with Teaching. A R Thakur and S Makhopadhyay 27
The Effect of the Inquiry Teaching Method on Biochemistry and Science Process Skill Achievements. H Basağa, Ö Geban and C Tekkaya 29
Intracellular Solute Movements: A Problem-Orientated Lecture for Final Year Undergraduates. P S Agutter 32
Features Section
Problem-Based Learning. C A Smith 36
Problems in Biological Chemistry for Students of Biological Sciences: Molarity, pH and Buffering. P S Agutter, K S Morss and A M Tunstall 36
Computer Aided Learning. R P Learmonth 40
Computer Network Resources and Advanced Level Teaching of Biochemical Sciences. T-W Tan and D B-K Kiong 40
Letter to the Editor 44
Experimental Section
A Laboratory Experiment Illustrating Tooth Decay. R Surarit, E-O Benjavongkulchai and J Svasti 45
Determination of Iodine Numbers of Edible Oils. R C Gupta and G Kanwar 47
Evaluation of the Hill Coefficient from Scatchard and Klotz Plots. A A Sabouri and A A Moosavi-Movahedi 48
Of Benedict's Solution and Enzymes—Easy Experiments. S C Hess and G A Damesceno Jr 49
Isolation of Lactoferrin by Immobilized Metal Ion Affinity Chromatography (IMAC). A Calvo and F Batista-Viera 50
Non-radioactive Detection of the *Staphylococcus aureus* Protein A Gene (*spa*) using the Polymerase Chain Reaction (PCR). A Corbett, C Joyce, D O'Meara and S Fanning 52
Book Reviews 56
Lexicon 63
Monitor 64

April

Editorial 65
All Change in Britain's Medical Schools? S J Higgins 66
Utilization of Physicians as Standardized Patients in a Medical Biochemistry Course. B H Ragatz, R C Hoversland, D R Koritnik and B E Hill 70
Library-based Projects for First-year Medical and Dental Students: A Critical Assessment. M Carroll 75
The Problems of Problem-based Learning. E J Wood 78
One Source of Aid for Central and Eastern Europe. P N Campbell 82
Recombinant DNA Technology in Ghana—Report on a Workshop held in August 1993. A Case Study for Molecular Biology in a Developing Country. J H Parish 84
An Introductory Laboratory Course in Biochemistry and Molecular Biology in Africa. A-M Leseney, A Prat and P Cohen 85
β-Oxidation of Polyunsaturated Fatty Acids. G D'Andrea 89

LDH: Plus ça change, plus c'est la même chose. Continuing Problems with Textbook Presentations of the Kinetic Properties of the Isozymes of Lactate Dehydrogenase. K L Manchester 91
Coenzyme, Cofactor and Prosthetic Group—Ambiguous Biochemical Jargon. O H Hashim and N A Adnan 93
Features Section
Problem-Based Learning. C A Smith 95
Determination of the Molecular Size of a Plasmid Following Restriction Endonuclease Digestion. P C Gowland 95
Computer Aided Learning. R P Learmonth 97
Software Review 97
Experimental Section
Demonstration of the Types of Forces and Motions Involved in DNA Unwinding. O Chude 100
Changes in Carbohydrate Content During Fruit Ripening—A New Approach of Teaching of Carbohydrate Chemistry in Biochemistry Course. P Chaimanee and O Suntornwat 101
Book Reviews 103
Lexicon 111
Monitor 112

July

Editorial 113
Understanding the Role of Proteinases Through a Ubiquitous Enzyme Complex, the Multicatalytic Proteinase (MCP). M T Khan and B D Roufogalis 114
The International Union of Biochemistry and Molecular Biology Committee on Education. Activities Proposed for 1994 120
To Teach or Not. R B Goldberg 121
Open Book Examinations. T G F Gray 122
Problem-based Learning and the Distance-learner. N R Cohen 126
Teaching and Research Trends in Biochemical Sciences. M W Akhtar 131
Introducing Business and Enterprise into the Biochemistry Curriculum. K R Adams and M Brennan 135
The Metabolic Clockwork. G Banfalvi 137
Features Section
Problem-Based Learning. C A Smith 140
Problems and Questions in the Molecular Modeling of Biomolecules. C J Cramer 140
Computer Aided Learning. R P Learmonth 143
A Microcomputer Simulation of Peptide Sequencing. M Vuento and M Vihinen-Ranta 144
Analysing and Exploring Problems in Biochemistry with a Computer. J A H Cognet, J Pothier, A M Leseney and C Marion 146
Experimental Section
Determination of Distances between Chromophores in Proteins. A Resonance-Energy Transfer Experiment. G Gonzalez 150
Polyphenoloxidase: An Enzyme Widespread in Fruits. S C García and A M Buzaleh 152
Plant Models to Replace Classical Biochemistry Practicals. M D Brownleader, M Trevan and P M Dey 154
SDS-Agarose Gel Electrophoresis as a Simple Procedure for Determining High Molecular Weight Protein Oligomerization. M D Brownleader, M Trevan and P M Dey 155
Erythrocyte Storage as a Model for Lipid Peroxidation Studies. An Experimental Assay for Students of Biochemistry and Molecular Biology. M Llanillo, J Sánchez-Yagüe, E M Martín-Valmaseda and A Hernández-Hernández 158
Videotape Review 162
Book Reviews 162
Lexicon 172
Monitor 173

October

Editorial 175
A La Carte Immunoassays. J P Gosling 176
Features Section
Computer-aided Calculations. R P Learmonth 192
A Computer-aided Learning Exercise in Spectrophotometry. F Pamula 192
Features Section
Problem-based Learning. C A Smith 195
Protein Stability: A Problem in Physical Biochemistry. M N Jones 196
A Course in Bioenergetics Based upon Student-generated Computer Models. J L Howland 198
Targetting Student Support in Large First Year Classes. A G Booth 199
Making Your Mark with Course Questionnaires. J D Houghton and A G Booth 201
Is it Possible to Discriminate Between Negative Cooperativity and Ligand Binding to Independent Sites with Different Affinity? F Malatesta and P Ascenzi 203
Experimental Section
Demonstration of the Regulation of Phosphorylase by Reversible Phosphorylation and Allosteric Effectors. R Toomik, K N Ekdahl and P Ekman 205
A Practical Exercise Involving RNA Isolation, Transfer and Hybridization. M R Marano, N Carrillo and E G Orellano 207
Clarification of Calorimetric and van't Hoff Enthalpies for Evaluation of Protein Transition States. A A Saboury and A A Moosavi-Movahedi 210
Test for Occult Blood. The Benzidine Reaction: A Text Book Error. U Anand, R Agarwal and C V Anand 212
An Experiment on Glycogen Biosynthesis in *Escherichia coli*. A R Lodeiro, O Di Lorenzo, S Petruccelli, S Molina-Ortiz and D Sorgentini 213
Determination of Urinary Ammonium: A Practical Class Experiment Designed to Introduce Medical Students to Mechanisms of Extracellular and Intracellular pH Homeostasis. C M Marinho and J P De Barros 215
Book Reviews 216
Lexicon 223
Biochemical Game
Polypeptide: From DNA and mRNA synthesis to a short polypeptide chain. J D Houghton 224
Monitor 224
Announcements 224
Volume Contents, Subject and Author Indexes to Volume 22, 1994 i